CLAIMS

1. A method of isolating at least one plasmid from other component(s) of a liquid, which method comprises the steps of
   (a) providing a separation matrix comprised of one or more porous carriers, which carrier(s) present anion exchange groups on external surfaces as well as pore surfaces and a pore size distribution that does not allow access of plasmids to pore surfaces;
   (b) contacting said matrix with the liquid to adsorb the plasmid(s) to ligands present on the external surfaces of the separation matrix; and, optionally,
   (c) contacting an eluent with the separation matrix to release the plasmid(s) and recovering plasmid(s) from a fraction of said eluent.
2. A method of isolating at least one plasmid from other component(s) of a liquid, which method comprises the steps of
   (a) providing a separation matrix comprised of one or more porous carriers, which carrier(s) present anion exchange groups on external surfaces as well as pore surfaces and a DNA exclusion limit of at least about 270 base pairs;
   (b) contacting said matrix with the liquid to adsorb the plasmid(s) to ligands present on the external surfaces of the separation matrix; and, optionally,
   (c) contacting an eluent with the separation matrix to release the plasmid(s) and recovering plasmid(s) from a fraction of said eluent.
3. A method according to claim 2, wherein the DNA exclusion limit of the separation matrix at least about 1,000 base pairs.
4. A method according to any one of the preceding claims, wherein the separation matrix is in the form of essentially spherical particles having an average diameter of 30-50 μm.
5. A method according to any one of the preceding claims, wherein the plasmids are of a size that exceeds about 3,000 base pairs.
6. A method according to any one of the preceding claims, which is a large scale process wherein at least about 1 grams of plasmid is recovered.

7. A method according to any one of the preceding claims, wherein one of the other components of the liquid is RNA, which in step (b) is adsorbed to ligands present on the pore surfaces of the separation matrix.
8. A method according to claim 7, wherein the plasmids recovered in step (c) are essentially free from RNA.
9. A method according to any one of the preceding claims, which comprises the following additional step

(d) subjecting the plasmid-containing eluate obtained from step (c) to hydrophobic interaction chromatography (HIC).

10. A method according to any one of the preceding claims, wherein said anion-exchange groups are selected from the group that consists of quaternary amine (Q) groups and diethylamine groups.
11. Use of a separation matrix comprised of one or more porous carriers, which carrier(s) present anion exchange groups on external surfaces as well as pore surfaces and a pore size distribution that does not allow access of plasmids to pore surfaces, for the purification of plasmids.
12. Use of a separation matrix comprised of a porous carrier to the surfaces of which anion-exchange groups have been immobilised, which matrix presents a DNA exclusion limit of at least about 270 base pairs, for the purification of plasmids.
13. Use according to claim 12, wherein the DNA exclusion limit of the matrix is at least about 1,000 base pairs.
14. Use according to any one of claims 11-13, which is a liquid chromatography method.
15. Use according to any one of claims 11-14, wherein the separation matrix is in the form of essentially spherical particles having an average diameter of 30-50 μm, and the plasmids are of a size that exceeds about 3,000 base pairs.
16. Use according to any one of claims 11-15, wherein one of the other components of the liquid is RNA, which in step (b) is adsorbed to the pore surfaces of the separation matrix while the plasmids are adsorbed to the external surfaces of the separation matrix.

17. Use according to any one of claims 11-16 for large scale purification of plasmids in volumes exceeding about 1 grams of plasmid.

18. A kit comprising, in separate compartments, a separation matrix comprised of one or more porous carriers, which carrier(s) present anion exchange groups on external surfaces as well as pore surfaces and a pore size distribution that does not allow access of plasmids to pore surfaces; at least one buffer; and written instructions that describes how plasmids are purified from other components of a liquid using said kit.

19. A kit comprising, in separate compartments, a separation matrix comprised of a carrier to the surfaces of which anion-exchange groups have been immobilised, which matrix presents a DNA exclusion limit of at least about 270 base pairs; at least one buffer; and written instructions that describes how plasmids are purified from other components of a liquid using said kit.

20. A kit according to claim 19, wherein the DNA exclusion limit of the matrix is at least about 1,000 base pairs.

21. A kit according to any one of claims 18-20, wherein the matrix is in the form of essentially spherical particles having an average particle diameter of 30-50 μm.

22. A kit according to any one of claims 18-21, wherein the separation matrix is provided in a chromatography column the diameter of which is at least about 10 cm.